

### REMARKS

This application pertains to a novel static mixer module.

Claims 1-15 and 17-22 are pending.

The drawings stand objected to because the Examiner does not see where channels running concentrically are shown, or where the angle of  $\pm 30^\circ$  in instant claim 4 is shown.

The angle formed by the mid axis (16) of the orifices and the flanks of the channels can be seen in FIG. 2, labeled  $\beta$ . The illustrated angle is  $90^\circ$ , but those skilled in the art will understand that it could also be  $30^\circ$ . Thus no further illustrations should be required.

With respect to the concentric channels, Applicants respectfully request that submission of a drawing showing same be deferred until allowable subject matter is identified. A drawing could then be submitted, without introducing any new matter, as such a drawing would only illustrate that which is already described in the specification.

The objection to the drawings should accordingly be withdrawn.

Claim 13 is objected to as being in improper multiple dependent form.

The Examiner's attention is respectfully directed to the preliminary amendment that was filed with the application, wherein this was corrected.

The objection to Claim 13 should accordingly now be withdrawn.

Claims 14 and 22 stand objected to as being in improper dependent form. These claims have now been amended, and as amended, are believed to be in proper form. The objection to claim 14 and 22 should accordingly now be withdrawn.

Claims 22 and 17 stand rejected under 35 USC 112, first paragraph, as being unclear and not enabled.

The claims have now been amended to make them more clear.

Enablement for the subject matter recited in Claims 22 and 17 can be found in the specification, page 6, line 21 - page 8; especially lines 11-21 of page 7.

The rejection of claims 22 and 17 under 35 USC 112, first paragraph, should accordingly now be withdrawn.

Claims 1-12, 14-15 and 17-22 stand rejected under 35 USC 112, second paragraph, for various reasons more specifically indicated in the Office Action.

With respect to the flanks (paragraph 9), these are inherent parts of the channels, and are supported by the recitation of the channels themselves.

With respect to the alternatives raised in paragraphs 12, 13 and 14 of the Office Action, it is clear from the text of the case that the limitations apply to "both" in each case.

All of the other issues raised in the rejection have been obviated by appropriate claim amendments.

Accordingly, the rejection of claims 1-12, 14-15 and 17-22 under 35 USC 112, second paragraph, should now be withdrawn.

Turning now to the art rejections, claims 1, 2, 5, 11, 12, 14, 15, 18 and 21 stand rejected under 35 USC 102 (b) as anticipated by King (399).

It is quite clear, however, that King does not involve orifices or channels, such as the present invention. This can be seen in FIGS. 4 and 5 of the King reference.

The King mixing device is constructed of strips of flaps, such as is illustrated in FIG. 4 of the reference. The strips are e.g., welded to each other to form the assemblies of FIG. 5.

Looking at FIG. 5, one can see that there is no connection between parts 32 and 33 or 32 and 34. These would have to be connected by welding, etc. To form a module, one would then have to cut out e.g., a circular section from the middle part 31. Then, this would have to be somehow secured in a tube.

There are no channels defined in King's device.

In addition, King shows no single "module", such as applicants' single module.

King's device does not have orifices through the elements 31, but instead is a type of honeycomb arrangement.

Compare King's FIG. 5 to Applicants' FIG. 1, and the differences become very clear.

The King device would require a multiplicity of welding points to go from the structure of FIG. 4 to the structure of FIG. 5. The edges of several pieces of structure 4 would have to be welded together.

The King device is therefore susceptible to collapse, should the weld points fail under pressure. Applicants' device is not.

By contrast, Applicants device can be simply produced in one step by casting it into a form.

King's device is actually very different than Applicants' and has absolutely nothing in common with Applicants' device.

The King reference cannot therefore be seen as in any way teaching or suggesting

Applicants' novel mixing module.

The rejection of claims 1, 2, 5, 11, 12, 14, 15, 18 and 21 under 35 USC 102 (b) as anticipated by King '399 should now be withdrawn.

Claim 4 stands rejected under 35 USC 103(a) as obvious over King '399. The Examiner sees the only difference as being the angles of  $\pm 30^\circ$ , and views this as an obvious modification.

There is, of course, nothing in King that would suggest these angles.

Of greater importance, however, is the fact that the differences are far greater than just these angles, as discussed above. Moreover, there is nothing in King that would suggest the changes that would be necessary to go from King's device to Applicants'. As a matter of fact, it would not appear to even be possible to do so. One would have to start from "the ground up".

The rejection of claim 4 under 35 USC 103(a) as obvious over King '399 should accordingly now be withdrawn.

Claims 3, 10, 19 and 20 stand rejected under 35 USC 103(a) as obvious over King '399 in view of Jeffers.

The Examiner cites Jeffers to show spacers.

Spacers will not, however, compensate for the deficiencies of the King reference, as discussed above.

The Examiner also relies on Jeffers to show baffle surfaces in the disc plane. This, however, will also not compensate for the deficiencies pointed out above.

The rejection of claims 3, 10, 19 and 20 under 35 USC 103(a) as obvious over King in view of Jeffers should accordingly now be withdrawn.

Claims 6-9 stand rejected under 35 USC 103(a) as obvious over King in view of Hirsch. The Examiner seems to be relying on Hirsch to show incorporation of different arrangements into a single disc.

This will not in any way overcome the basic deficiencies of the King reference, discussed above.

The rejection of claims 6-9 under 35 USC 103(a) as obvious over King in view of Hirsch should accordingly be withdrawn.

Claims 22 and 17 stand rejected under 35 USC 103(a) as obvious over King (399) in view of Hirsch (391) and King (300). The Examiner seems to be relying on Hirsch and

King (300) to show incorporation of different regions into a single disc, and adaptations of boundaries so that modules fit together. None of this addresses the basic deficiencies discussed above, and does not bring the King '399 reference any closer to Applicants' device.

The rejection of claims 22 and 17 under 35 USC 103(a) as obvious over King (399) in view of Hirsch and King (300) should accordingly now be withdrawn.

In view of the present amendment and remarks it is believed that claims 1-5 and 17-22 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested and the allowance thereof is courteously solicited.



Respectfully submitted,  
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Date August 3, 2000

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